

# Autonomous Defense Node (ADN) – Technical Specification v1

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## 1. Core Components

- Metrics Collector
- Risk Normalizer
- DQSNet Interface
- Sentinel Interface
- Defense Score Engine
- Action Executor
- State Machine

## 2. Data Models

NodeStatus { mempool\_load, cpu\_usage, block\_delay, pending\_txs, peers }

RiskResult { score, level, details }

DefenseAction { action, reason, timestamp }

## 3. Defense Scoring Formula

$score = \sum(weight\_i * factor\_i)$

Where weights = { dqsnet:0.35, sentinel:0.35, mempool:0.10, cpu:0.08, delay:0.06, reorg:0.06 }

## 4. Operational Modes

Passive → Active → High Alert → Emergency

## 5. Integration Expectations

- RPC connections
- PQC migration capability
- Delegated alert channels